

Washington Razor Clam Management

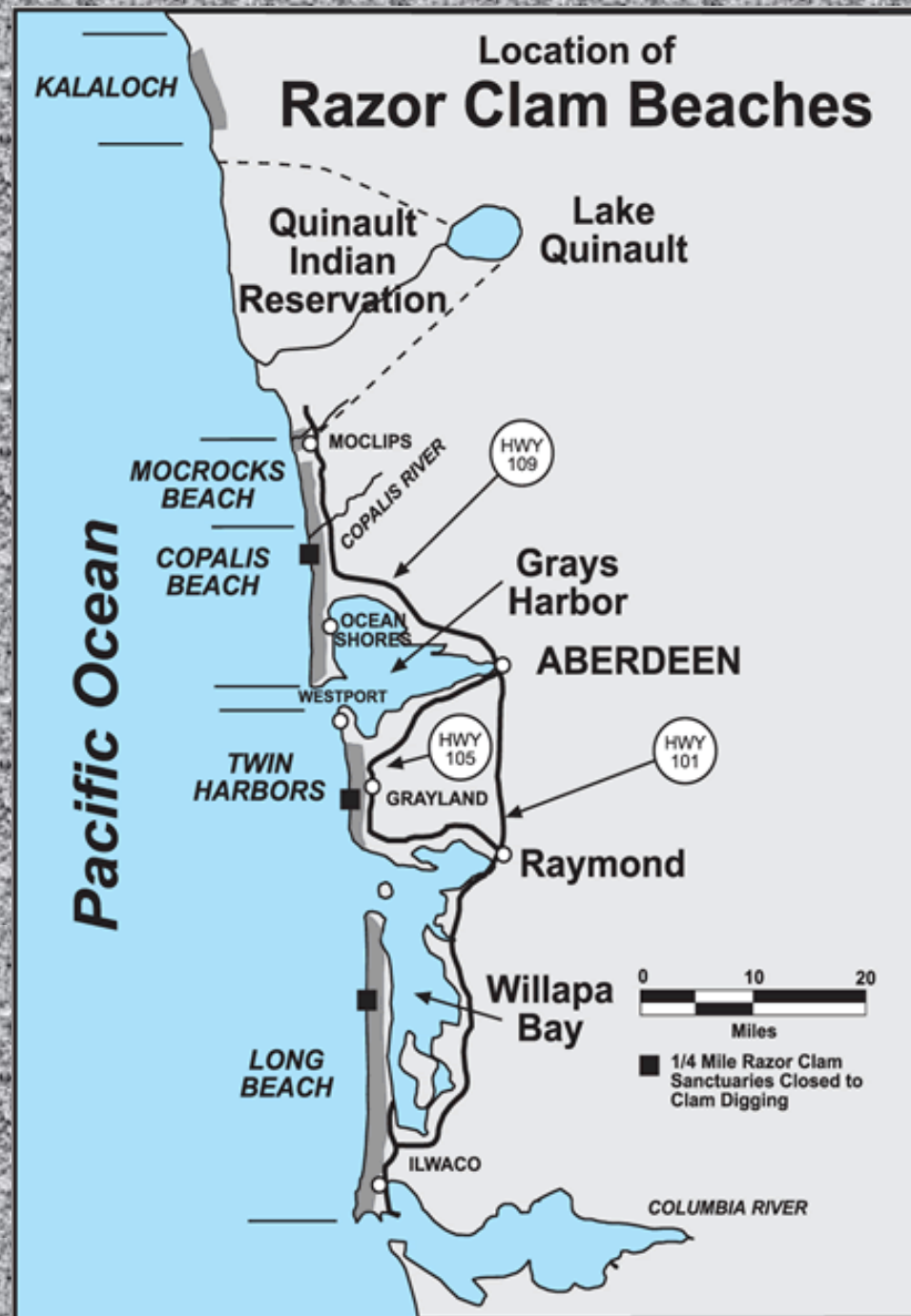


Setting the 2012-2013
Season

What's Up?

CONTENTS OF THIS PRESENTATION

- Review of the 2011-12 Season
- Marine Toxin Update / ORHAB
- Status of Razor Clam Stocks
- Tribal Co-management
- Season Options for 2012-13



Razor Clam Digging In Washington State

WDFW's goal is to provide a safe and enjoyable recreational experience, while still protecting the resource.



FISH AND WILDLIFE COMMISSION **POLICY DECISION**

**POLICY
TITLE:**

Razor Clam Management

POLICY NUMBER: POL-C3009

Cancels:

Effective Date

January 4, 1997

Termination Date

(if applicable):

See Also:

Approved by:

/s/ Lisa Pelly

Fish and Wildlife Commission Chair

The management objectives for the razor clam fishery are:

- Manage the razor clam resource on all coastal beaches for recreational use with a minor separate commercial fishery located only on detached spits of Willapa Bay.
 - Protect public health and safety.
 - Manage the resource to maintain stable and healthy populations.
 - Maximize recreational opportunity.
 - Provide a quality recreational experience.
 - Independently manage the razor clam populations on Kalaloch (*in cooperation with Olympic National Park*), Mocrocks, Copalis, Twin Harbors and Long Beach while considering the pertinent interactions of seasons, effort, opportunity and tribal allocations.
 - Provide for consistent commercial fishing opportunity that does not conflict with the recreational fishery.
-

2011-2012 Fishery Review



194,976
digger
trips



Average of
13.2 clams
per digger trip



2.5 million clams
harvested.

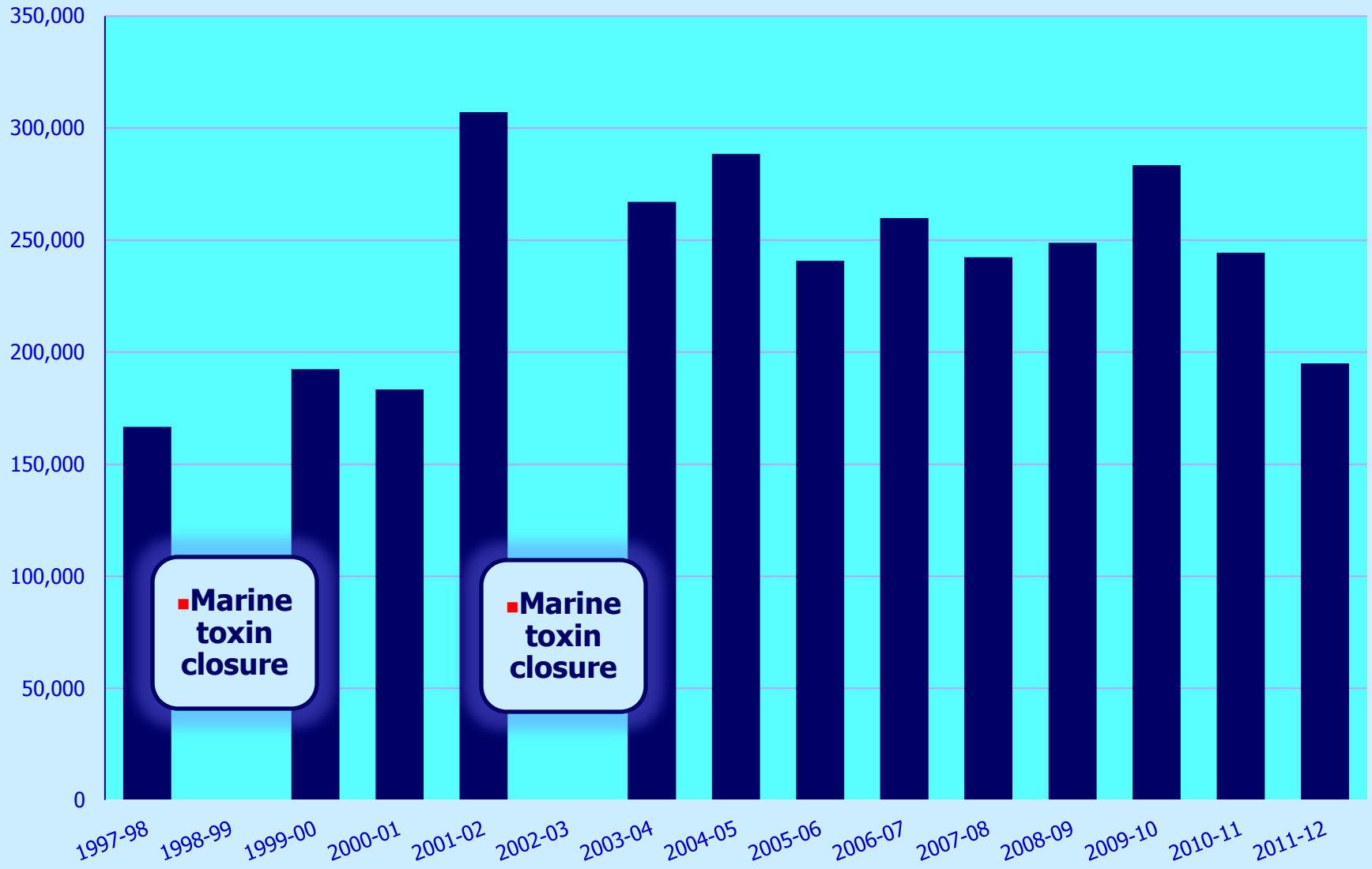
Going into the 2011-12 recreational razor clam season, we knew that the TAC values for most beaches were lower than they had been in many seasons. This was especially true at Copalis, one of the most popular beaches with a TAC that was 50% lower than the historical average. As a direct result, this season had the lowest total effort and total harvest since the 2000-01 season.

However, the 2011-12 season was not without its highlights.

- We were able to offer harvest during two weekends a month in November, December, February, March and April – on at least some beaches.
- November's dates included Thanksgiving weekend dig and with careful planning, we were able to include one day at Copalis.
- While there were no tides that coincided with the ever popular New Year's holiday period, we were able to offer an opener just prior to Christmas (Dec. 22 and 23.) These late afternoon openers proved to be very popular - although good weather and surf conditions likely played a part.
- In February 2012, for the first time in the history of our management of the fishery – the National Weather Service – in an official advisory, specifically advised razor clam diggers to be aware of potentially dangerous conditions caused by high surf. WDFW chose to pass on the NWS high surf advisory using our large razor clam email distribution list.
- With careful management, we were able to allow an opener that coincided with the very popular annual Ocean Shores Razor clam festival in March. This helped increase attendance for the festival and make it a very popular local event.
- WDFW and ONP agreed to wait until April before allowing the small razor clams the opportunity to grow. However, harvest during the three-day April opener (which had excellent weather conditions) was unsuccessful. No additional harvest occurred.

Washington Recreational Razor Clam Total Effort By Season 1997/98 through 2011/12

Digger trips



Washington Recreational Razor Clam

<i>20011-12 Season Totals</i>	<i>HARVEST</i>	<i>EFFORT</i>	<i>Average Daily Catch (clams/digger)</i>	<i>Total Digging Days</i>
Long beach	1,063,066	82,8471	12.8	23
Twin Harbors	563,138	40,632	13.9	26
Copalis	348,837	26,212	13.3	13
Mocrocks	597,700	44,002	13.6	20
Kalaloch	2,952	1,283	2.3	3
TOTAL	2,575,692	194,976	13.2	

Month	Long beach	
October 2011	2 Days	Fri, Sat
November 2011	4 Days	Fri, Sat + Fri, Sat
December 2011	3 Days	Sat + Thu, Fri
January 2012	2 Days	Fri, Sat
February 2012	2 Days	Sat, Sun
March 2012	4 Days	Sat, Sun + Sat, Sun
April 2012	6 Days	Sat, Sun, Mon + Sat, Sun, Mon
May 2012	0 Days	
Totals:	23 Days	
	Effort = 82,847 digger trips	
	Harvest = 1,063,066 clams	
	(Including wastage of 3,000 clams)	
	Portion of TAC Harvested = 97.1%	

Month	Twin Harbors	
October 2011	2 Days	Fri, Sat
November 2011	4 Days	Fri, Sat + Fri, Sat
December 2011	3 Days	Sat + Thu, Fri
January 2012	2 Days	Fri, Sat
February 2012	2 Days	Sat, Sun
March 2012	4 Days	Sat, Sun + Sat, Sun
April 2012	6 Days	Sat, Sun, Mon + Sat, Sun, Mon
May 2012	3 Days	Sat, Sun, Mon
Totals:	26 Days	
	Effort = 40,632 digger trips	
	Harvest = 563,138 clams	
	(Including wastage of 13,175 clams)	
	Portion of TAC Harvested = 91.4%	

Month	Copalis	
October 2011	2 Days	Fri, Sat
November 2011	1 Days	Fri
December 2011	3 Days	Sat + Thu, Fri
January 2012	2 Days	Fri, Sat
February 2012	0 Days	
March 2012	3 Days	Sat, Sun + Sat
April 2012	2 Days	Sat + Mon
May 2012	0 Days	
Totals:	13 Days	
	Effort = 26,212 digger trips	
	Harvest = 348,837 clams	
	(Including wastage of 2,233 clams)	
	Portion of TAC Harvested = 93.9%	

Month	Mocrocks	
October 2011	2 Days	Fri, Sat
November 2011	4 Days	Fri, Sat + Fri, Sat
December 2011	3 Days	Sat + Thu, Fri
January 2012	2 Days	Fri, Sat
February 2012	2 Days	Sat, Sun
March 2012	4 Days	Sat, Sun + Sat, Sun
April 2012	3 Days	Sat, Sun + Mon
May 2012	0 Days	
Totals:	20 Days	
	Effort = 44,002 digger trips	
	Harvest = 597,700 clams	
	(Including wastage of 6,700 clams)	
	Portion of TAC Harvested = 98.7%	

Month	Kalaloch	
October 2011	0 Days	
November 2011	0 Days	
December 2011	0 Days	
January 2012	0 Days	
February 2012	0 Days	
March 2012	0 Days	
April 2012	3 Days	Sat, Sun, Mon
May 2012	0 Days	
Totals:	3 Days	
	Effort = 1,283 digger trips	
	Harvest = 2,952 clams	
	Portion of TAC Harvested = 2.0%	

MARINE TOXINS



Domoic Acid

Amnesic Shellfish Poisoning (ASP)

- Produced by a diatom (*Pseudo-nitzschia sp.*)
- Domoic acid - neurotoxin
- Nausea, dizziness, memory loss
- Stroke-like symptoms that can lead to death
- No antidote
- Not destroyed by cooking/freezing
- Not easily detected

PSP Toxin

Paralytic Shellfish Poisoning (PSP)

- Produced by a dinoflagellate (*Alexandrium sp.*)
- Saxitoxin- neurotoxin
- Numbness, finger tingling/toes, lips
- Can paralyze the diaphragm and lead to death
- No antidote
- Not destroyed by cooking/freezing
- Not easily detected

DSP Toxin

Diarrhetic Shellfish Poisoning (PSP)

- Produced by a dinoflagellate (*Dinophysis sp.*)
- Okadaic acid
- Causes nausea, vomiting, abdominal pain, and diarrhea, with diarrhea being the most commonly reported symptom
- No antidote
- Not destroyed by cooking/freezing
- Not easily detected

WDFW is required to collect samples per strict WDOH protocol:

To open or remain open, ALL samples must test below
The action level...

- Samples from 3 areas per beach.
- 12 adult clams per sample.
- 2 collections 7-10 days apart (often means digging on poorer tides).
- Last collection as close to opening as possible.
- In-season collections also 7-10 days apart.



Throughout the 2011-12 razor clam season, in regular tests of razor clam tissue, levels of both the toxin that produces PSP and domoic acid remained at very low, background levels. As of this writing (Sept. 13, 2012) levels of both toxins continue to remain low. However, experience tells us that this can change rapidly and levels of these toxins can accumulate in razor clams fairly quickly. Together with the Washington Department of Health we will continue to collect and test razor clam samples just prior to every opener to insure the clams you are harvesting and consuming are safe.

<http://www.nwfsc.noaa.gov/orhab/>

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Olympic Region Harmful Algal Blooms

ORHAB PARTNERSHIP

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The ORHAB project is bringing knowledge to the local communities on the Olympic peninsula of the Washington State coast, empowering the tribes and state managers to make scientifically-based decisions about managing and mitigating harmful algal bloom (HAB) impacts on coastal fishery resources.

The ORHAB Partnership was formed in June 1999 by local residents and coastal communities' in response to seemingly random closures of the shellfisheries due to outbreaks of marine biotoxins (Paralytic Shellfish Poison, PSP) and domoic acid contamination of razor clams. It became clear that in order to manage these outbreaks there was a need to better understand underlying dynamics of these disruptive HAB events. These research efforts, made possible by federal funding from NOAA, have been underway since the summer of 2000.

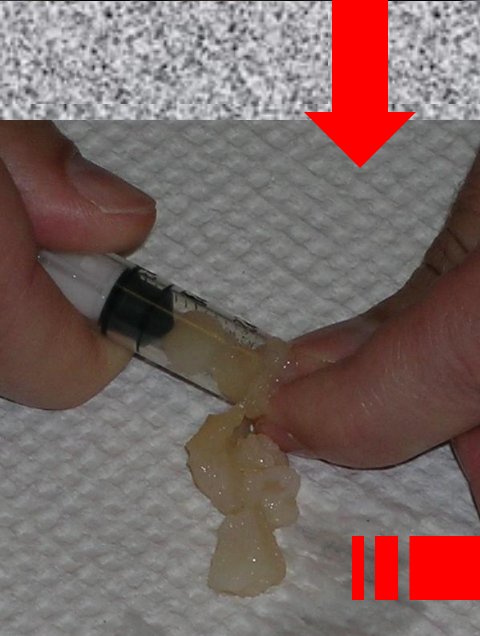
To find out more about ORHAB and HABs, please visit the navigation bar on the left.



**WDFW's role:
monitor surf zone
plankton,
toxins, and
water quality...**

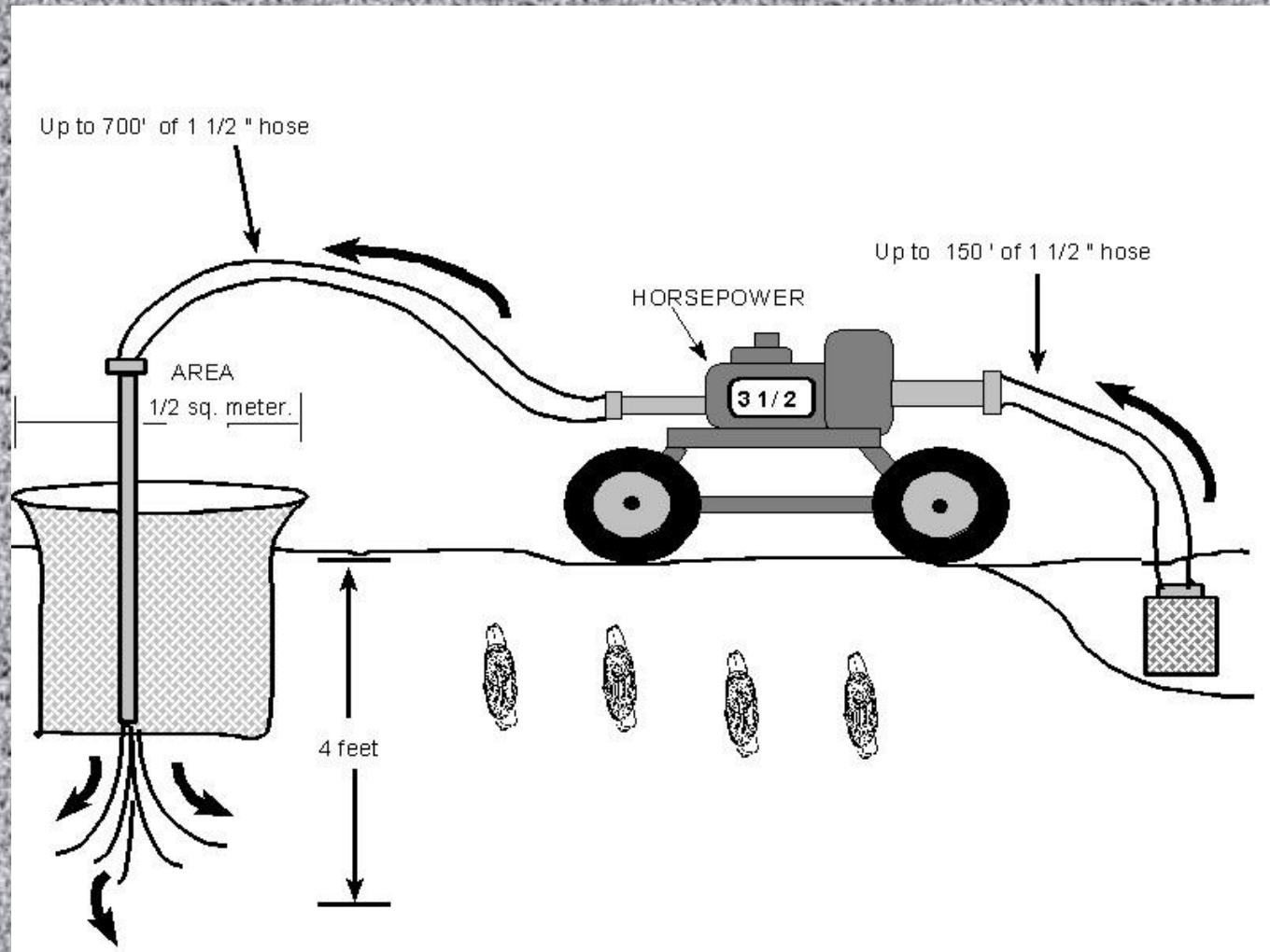


**...to determine
the environmental
conditions associated with blooms
of *Pseudo-nitzschia* species.**



Rapid Test Kits: Rapid detection assays for use in the field are being tested by state and tribal technicians.

Status of the Razor Clam Stocks



Starting in May and ending in September
WDFW and tribal co-managers survey a total

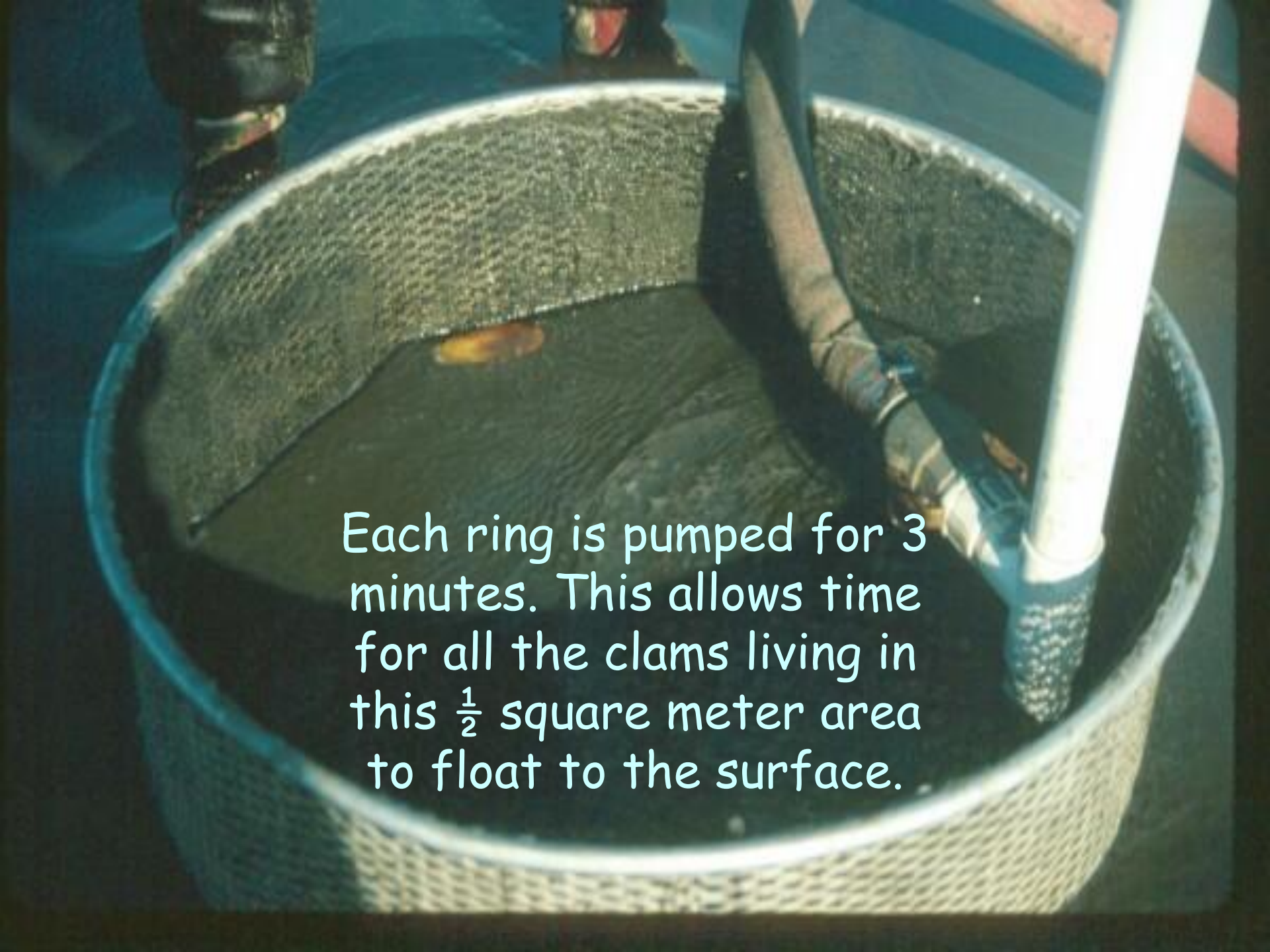
...total of 58 miles of
Razor Clam habitat...

from the sound end of the
Long Beach Peninsula (Beard's Hollow) to
the north end of Kalaloch.

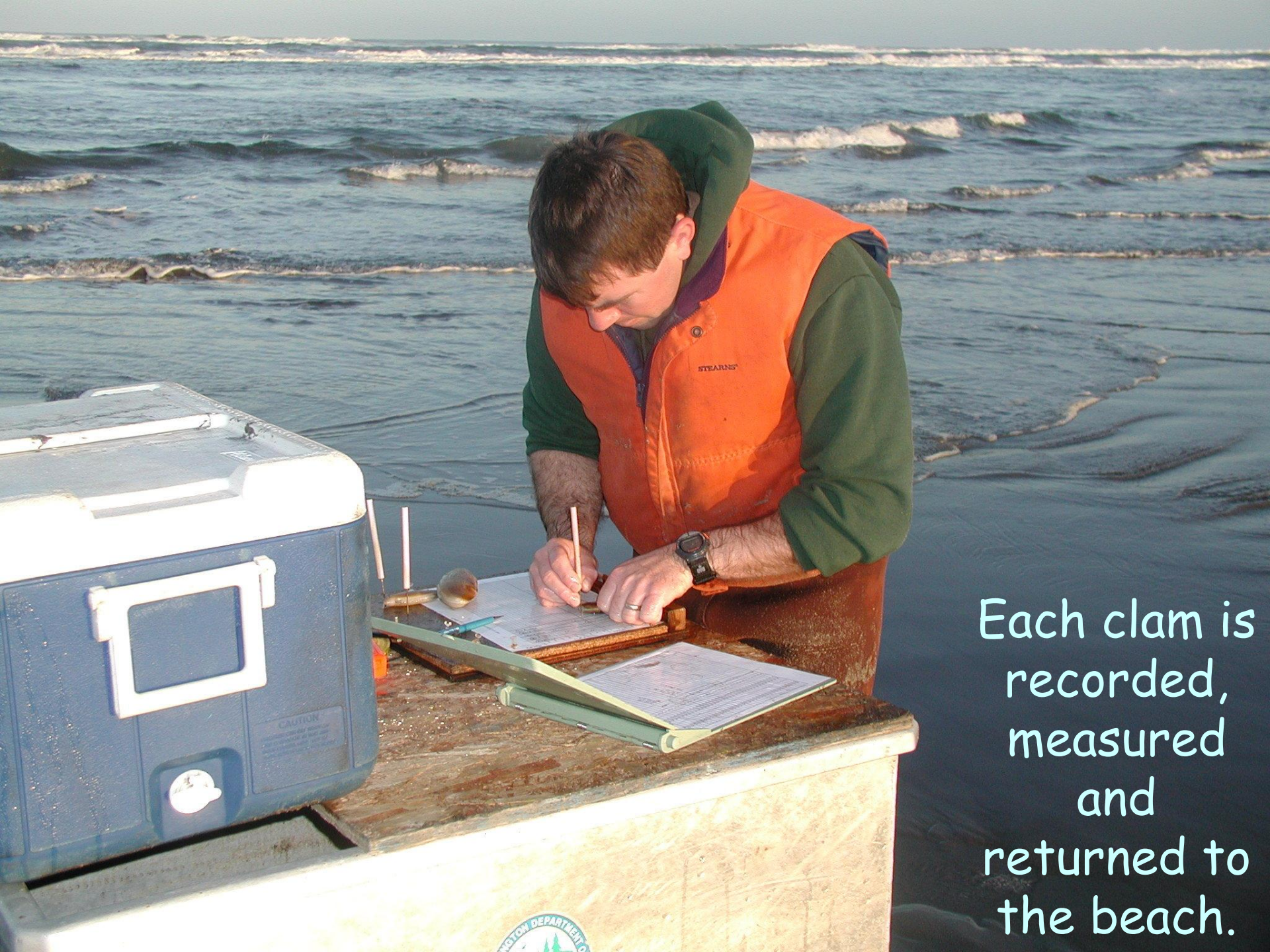




Water is pumped up the beach
and used to liquefy the sand
within a $\frac{1}{2}$ square meter
aluminum ring.



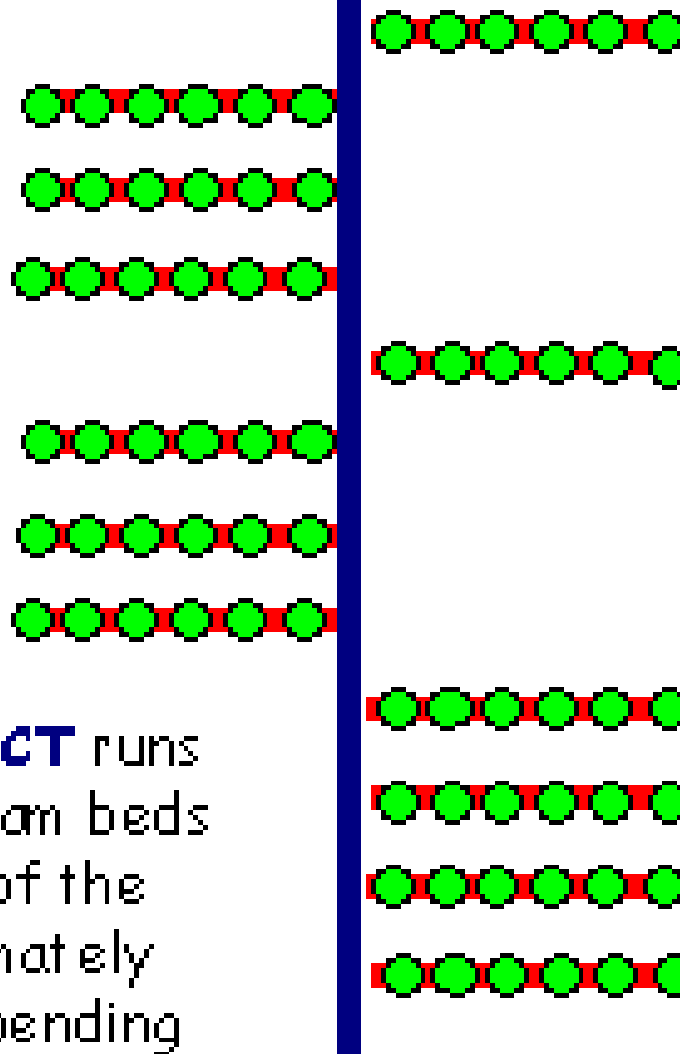
Each ring is pumped for 3 minutes. This allows time for all the clams living in this $\frac{1}{2}$ square meter area to float to the surface.



Each clam is
recorded,
measured
and
returned to
the beach.

OCEAN

NORTH



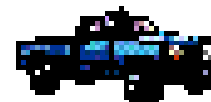
Six SAMPLE
PLOTS are
pumped at each
elevation.

● = Plot

ELEVATIONS
are randomly
chosen to run
north or south
of the transect
at 50 foot
intervals.

Each **TRANSECT** runs
from top of clam beds
to the edge of the
surf, approximately
600 feet (depending
on the location).

UPLAND DRIVING AREA





2012 Stock Assessment - Results

■ How many days can we dig?

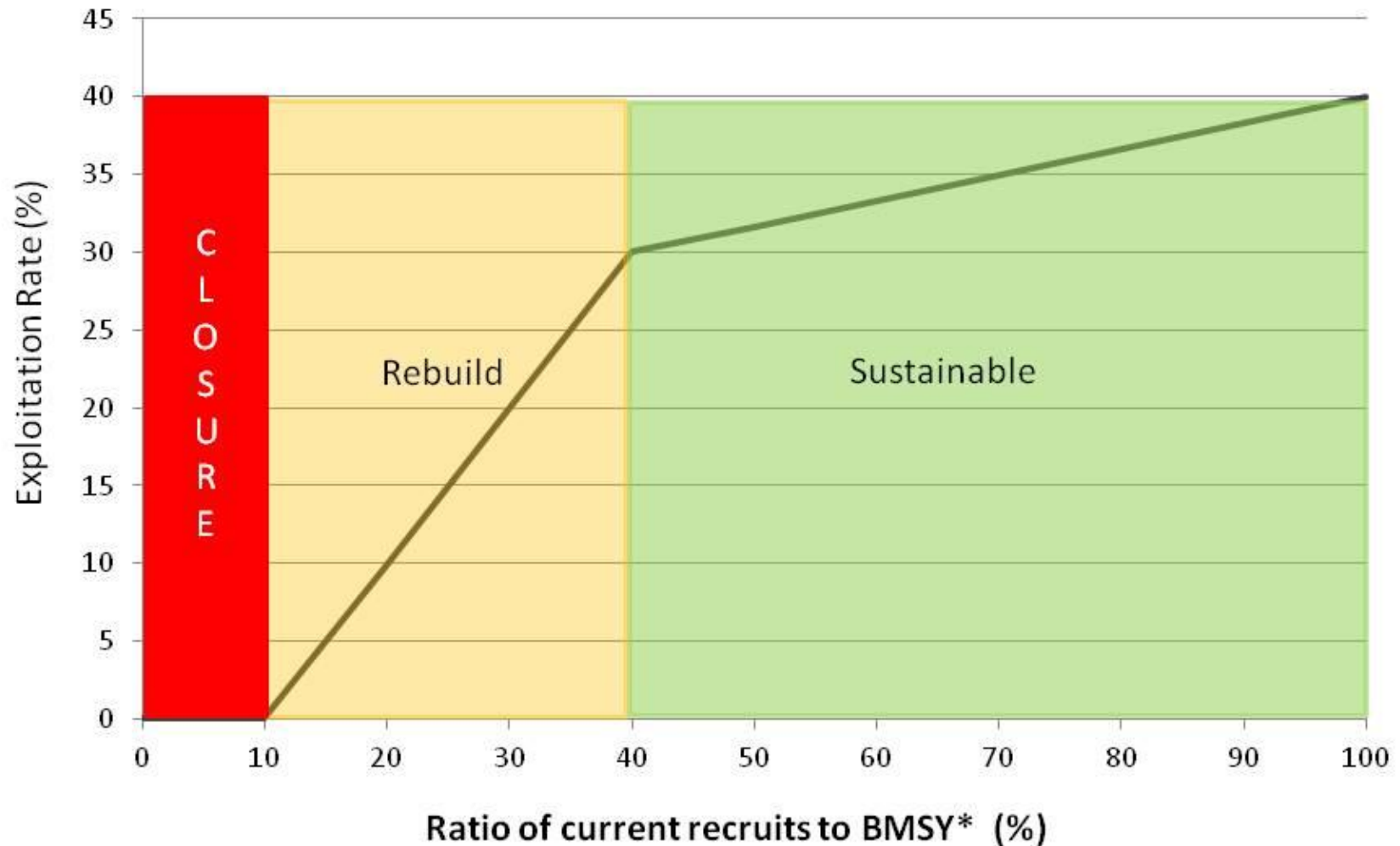
Stock assessment data :

1. Estimate of the number clams
2. Estimate of the average size

TAC (total allowable catch) =

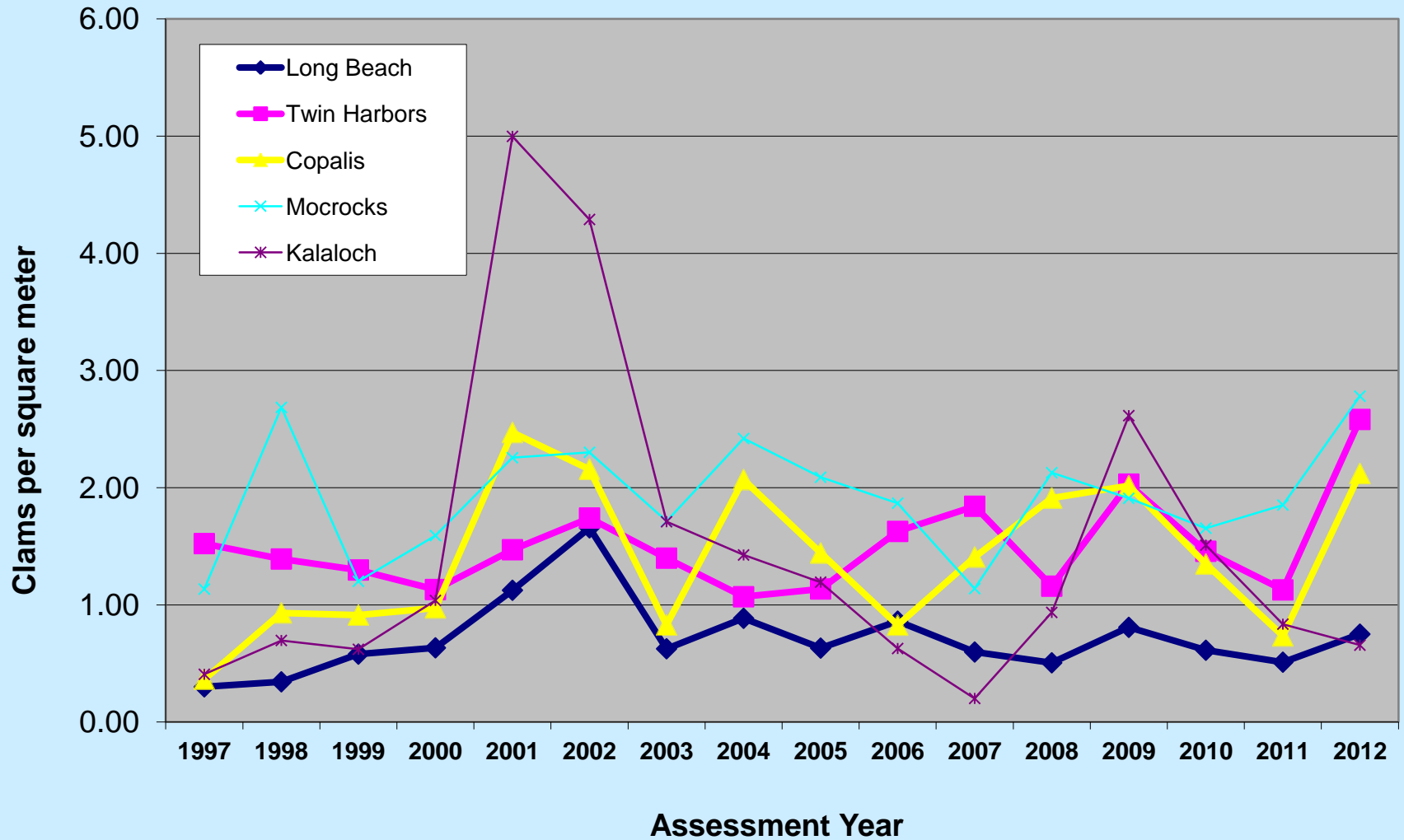
Total clams 3 inches or greater x
current harvest rate of 30.0%.

Variable Exploitation Rate for Razor Clams



* BMSY is defined as the biomass that allows maximum sustainable yield to be taken

Washington Razor Clam Average Density Recruits By Beach



LONG BEACH RAZOR CLAM POPULATION, TOTAL ALLOWABLE CATCH (TAC) AND HARVEST DATA

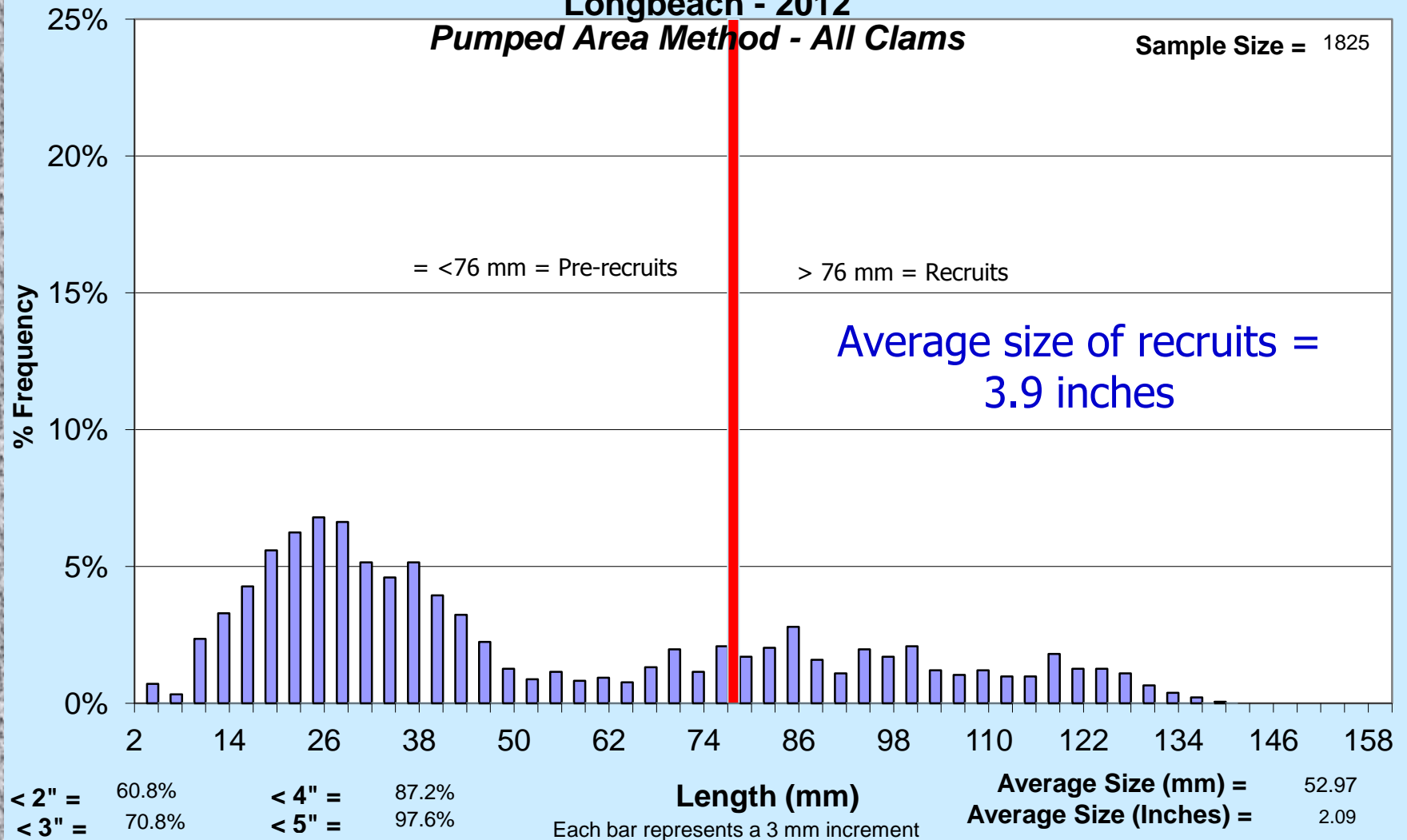
YEAR	POPULATION (clams)		TAC (clams) Harvest rate @ 30%	HARVEST	% of TAC
	RECRUITS	PRE-RECRUITS	of recruits	TOTAL (clams)	harvested
2008-09	3,509,940	5,894,291	1,052,982	1,031,223	97.9%
2009-10	5,611,837	3,582,973	1,683,551	1,422,020	84.5%
2010-11	4,254,159	13,652,853	1,276,248	1,170,069	91.7%
2011-12	3,648,805	2,781,402	1,094,642	1,063,066	97.1%
2012-13	5,356,383	14,450,287	1,847,952*		
AVERAGE	4,476,225	8,072,361		1,171,559	

Washington Razor Clam

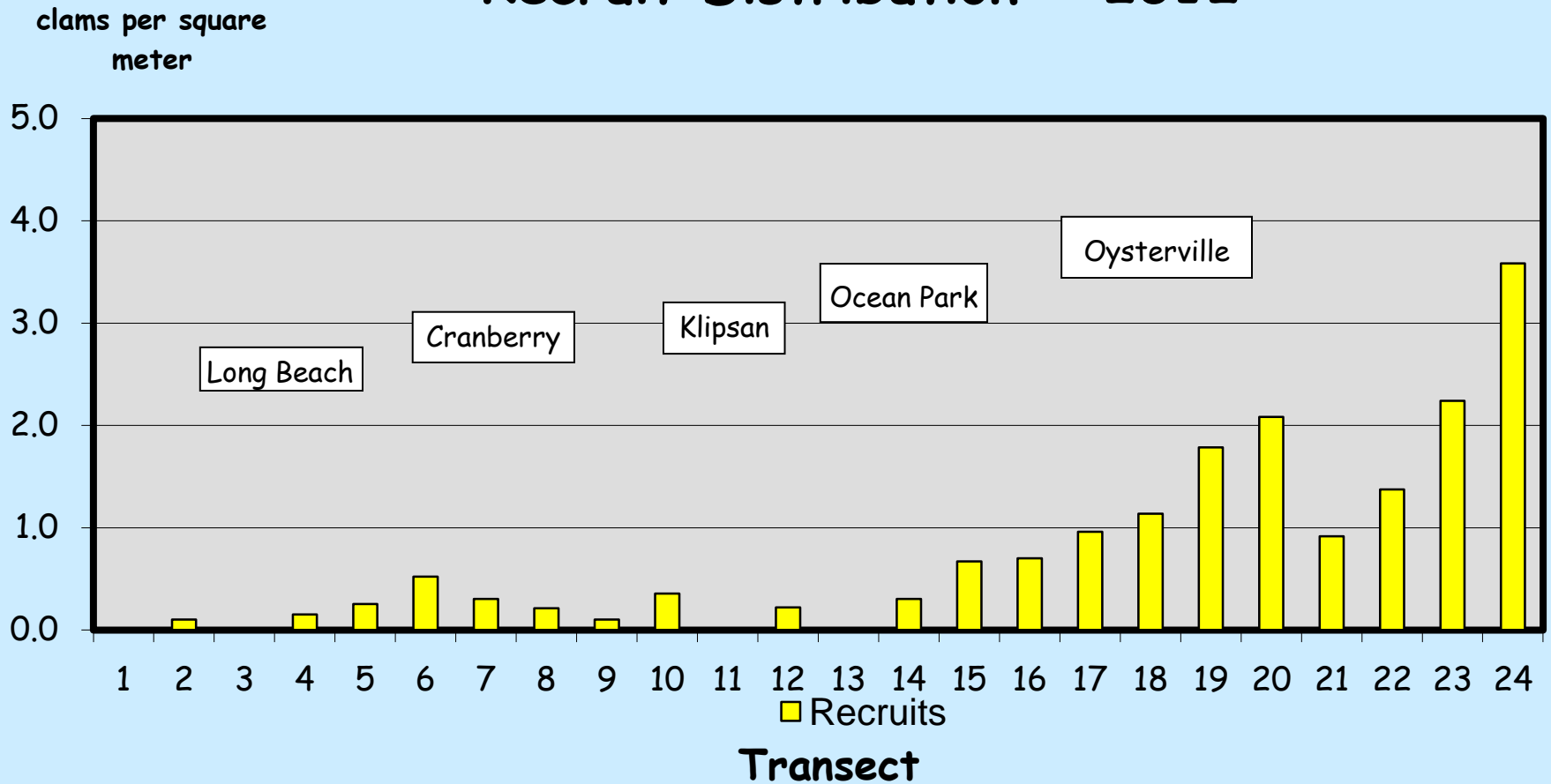
Size Frequency Distribution
Longbeach - 2012

Pumped Area Method - All Clams

Sample Size = 1825



Long Beach Razor Clam Population Recruit Distribution - 2012



TWIN HARBORS RAZOR CLAM POPULATION, TOTAL ALLOWABLE CATCH (TAC) AND HARVEST DATA

YEAR	POPULATION (clams)		TAC (clams)	HARVEST	% of TAC
	RECRUITS	PRE-RECRUITS	of recruits	(clams) TOTAL	
2008-09	2,241,658	4,145,700	672,497	565,138	84.0%
2009-10	3,925,788	2,500,305	1,177,736	840,119	71.3%
2010-11	2,818,092	2,859,722	845,428	674,714	98.8%
2011-12	2,054,381	5,571,684	616,314	563,138	91.4%
2012-13	4,704,458	8,757,897	1,881,783*		
AVERAGE	3,148,875	4,767,041			

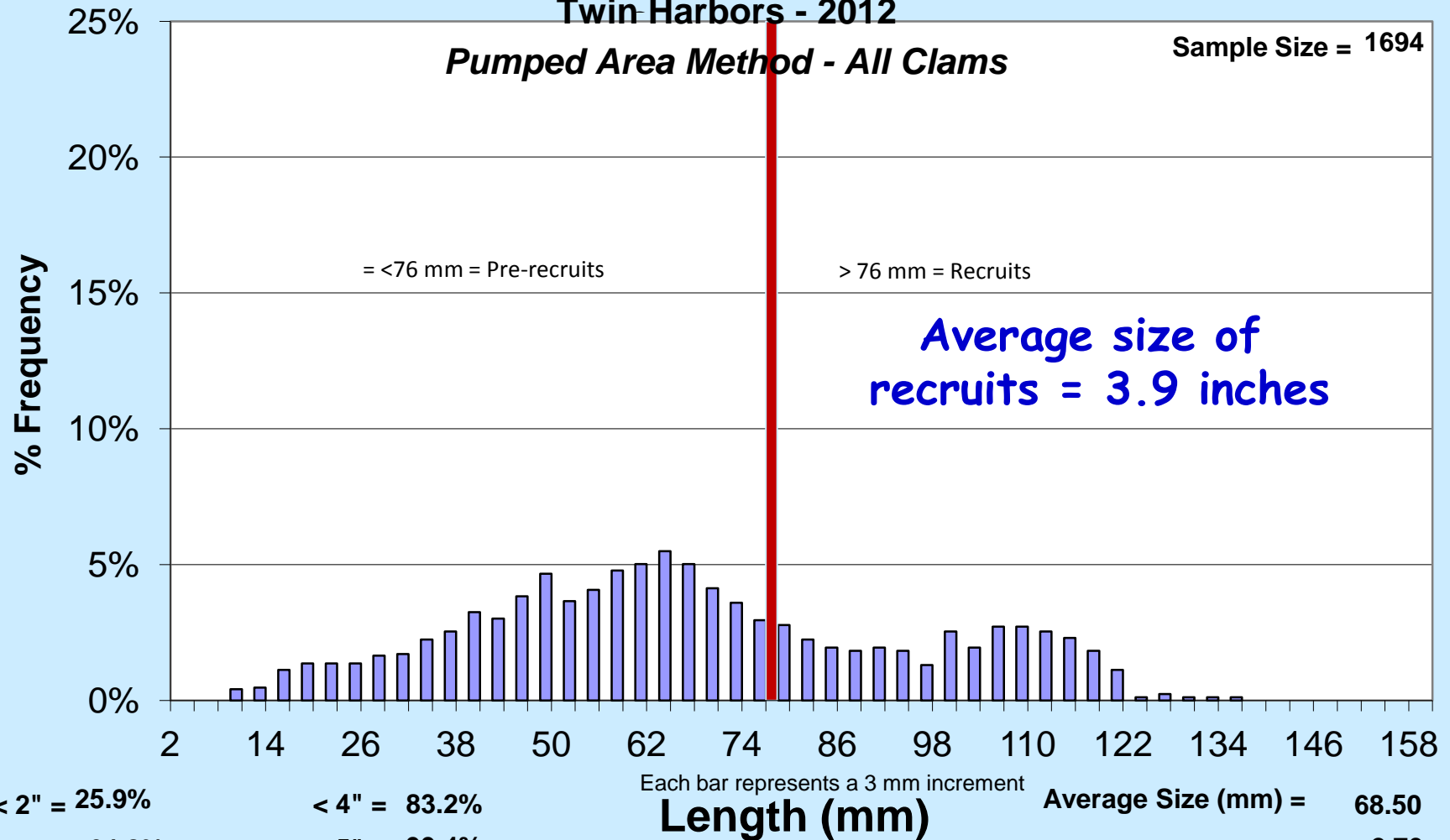
Washington Razor Clam

Size Frequency Distribution

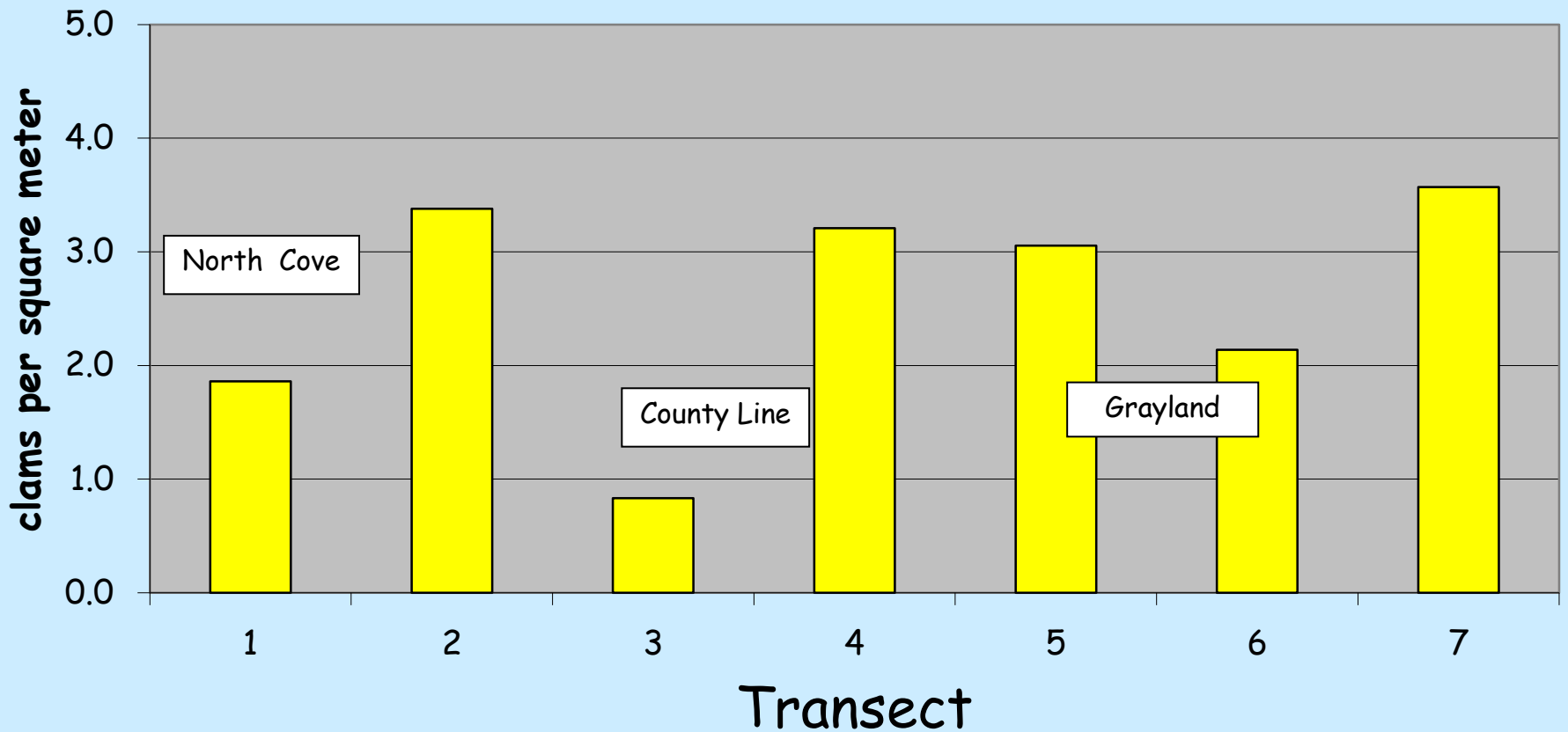
Twin Harbors - 2012

Pumped Area Method - All Clams

Sample Size = 1694



Twin Harbors Razor Clam Population Recruit Distribution - 2012



COPALIS RAZOR CLAM POPULATION, TOTAL ALLOWABLE CATCH (TAC) AND HARVEST DATA

YEAR	POPULATION (clams)		TAC (clams) Harvest rate @ 30% of recruits	State's Share (50% w/ <i>adjustments</i>)	State's HARVEST (clams) TOTAL	% of share harvested
	RECRUITS	PRE- RECRUITS				
2008-09	6,453,563	9,953,166	1,936,069	968,034	963,497	99.5%
2009-10	6,810,540	608,425	2,043,162	1,021,581	1,000,413	97.9%
2010-11	4,554,449	6,791,312	1,366,335	683,167	674,715	98.8%
2011-12	2,475,820	7,344,699	742,746	371,373	348,837	93.9%
2012-13	7,151,264	9,898,813	1,072,690			
AVERAGE	5,489,127	6,919,289				

Washington Razor Clam

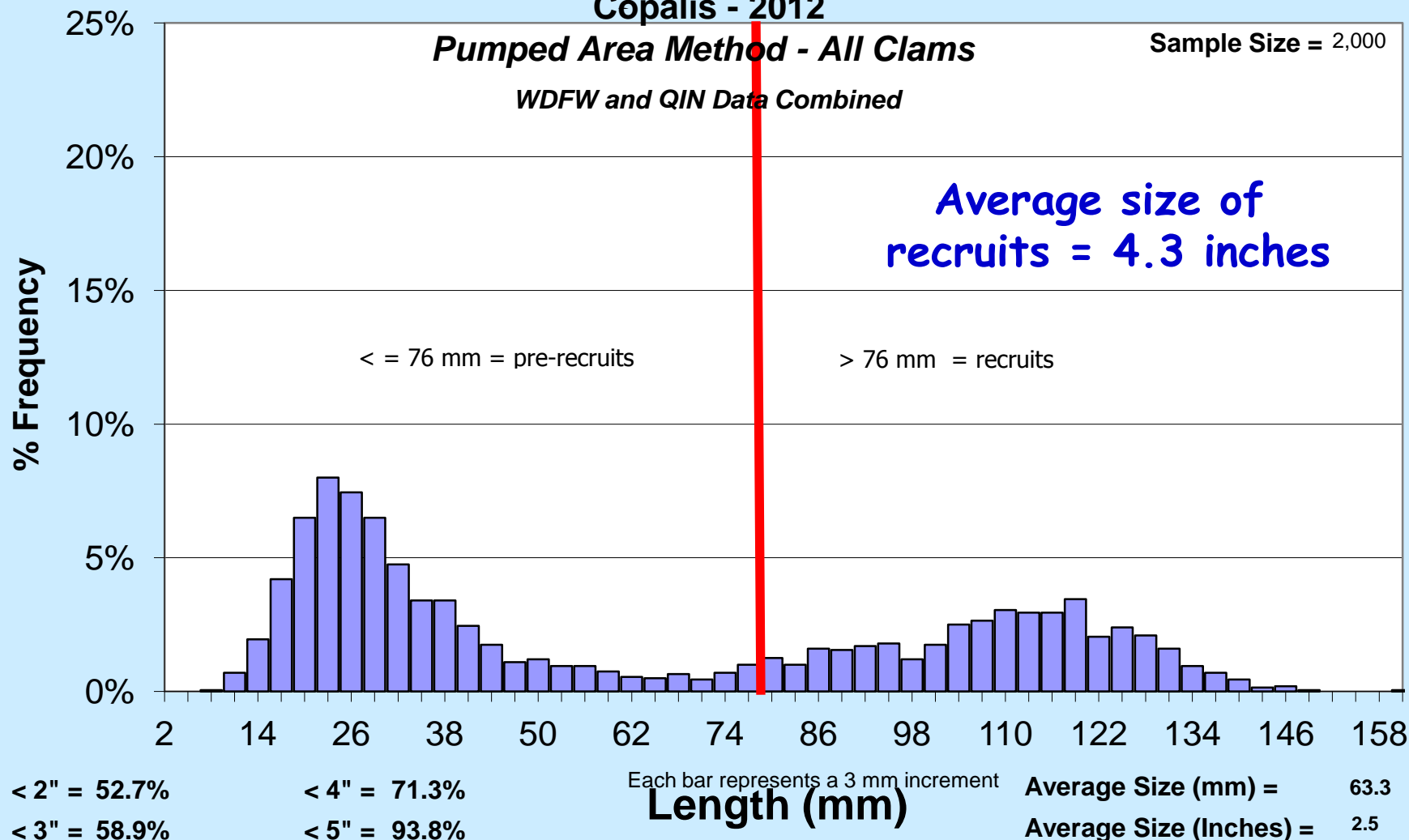
Size Frequency Distribution

Copalis - 2012

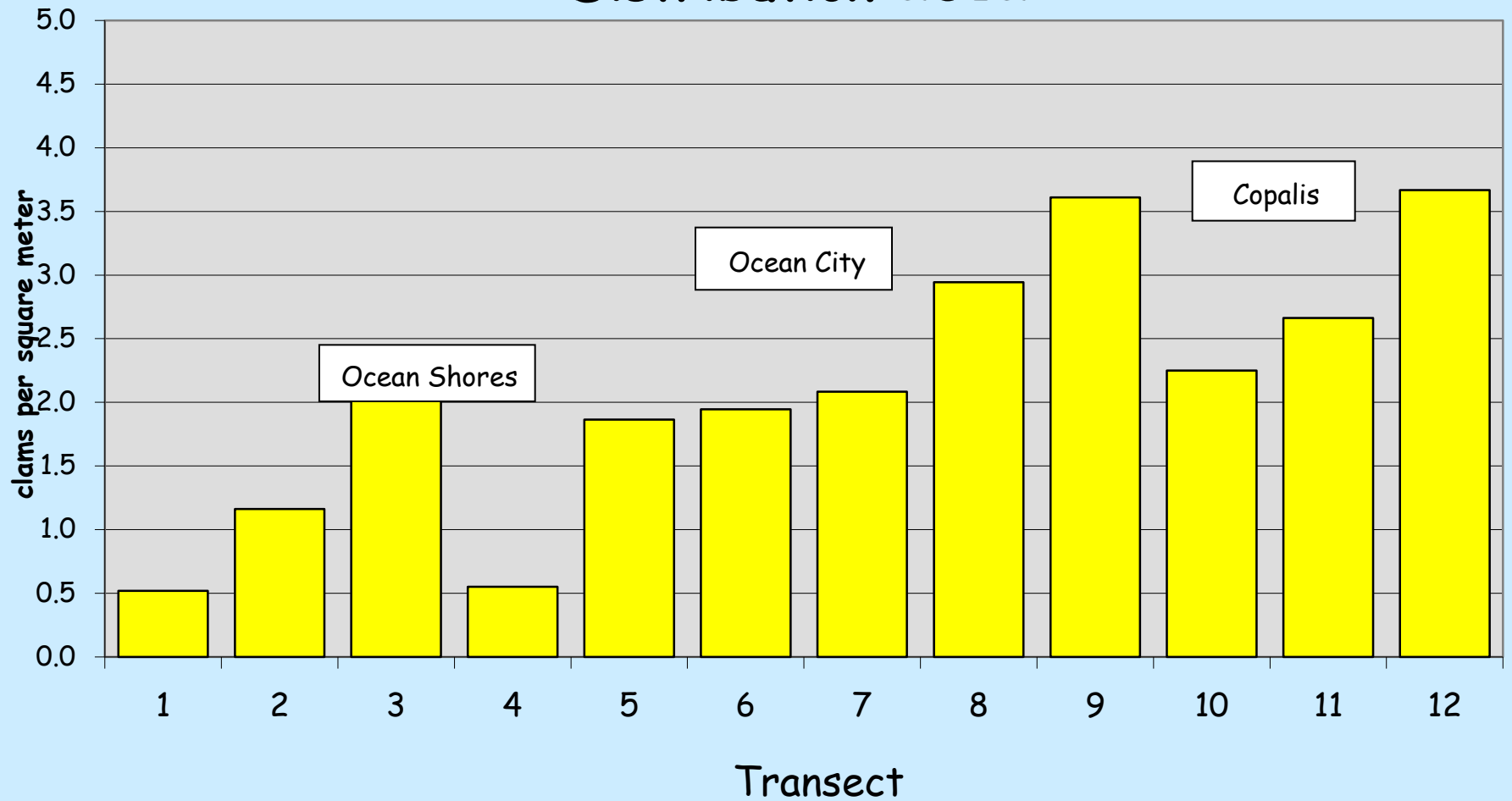
Pumped Area Method - All Clams

Sample Size = 2,000

WDFW and QIN Data Combined



Copalis Razor Clam Recruit Population Distribution 2012



MOCROCKS RAZOR CLAM POPULATION, TOTAL ALLOWABLE CATCH (TAC) AND HARVEST DATA

YEAR	POPULATION (clams)		TAC (clams) Harvest rate @ 30% of recruits	State's Share (50% w/ <i>adjustments</i>)	State's HARVEST (clams) TOTAL	% of share harvested
	RECRUITS	PRE- RECRUITS				
2008-09	4,678,093	5,058,265	1,403,428	701,714	656,309	93.5%
2009-10	4,197,541	1,414,149	1,259,262	629,631	496,303	78.8%
2010-11	3,637,245	18,064,334	1,091,174	545,587	531,766	97.5%
2011-12	4,038,871	8,211,211	1,211,661	605,831	597,700	98.7%
2012-13	6,064,416	10,276,881	909,667			
AVERAGE	3,810,968	7,135,074				

Washington Razor Clam

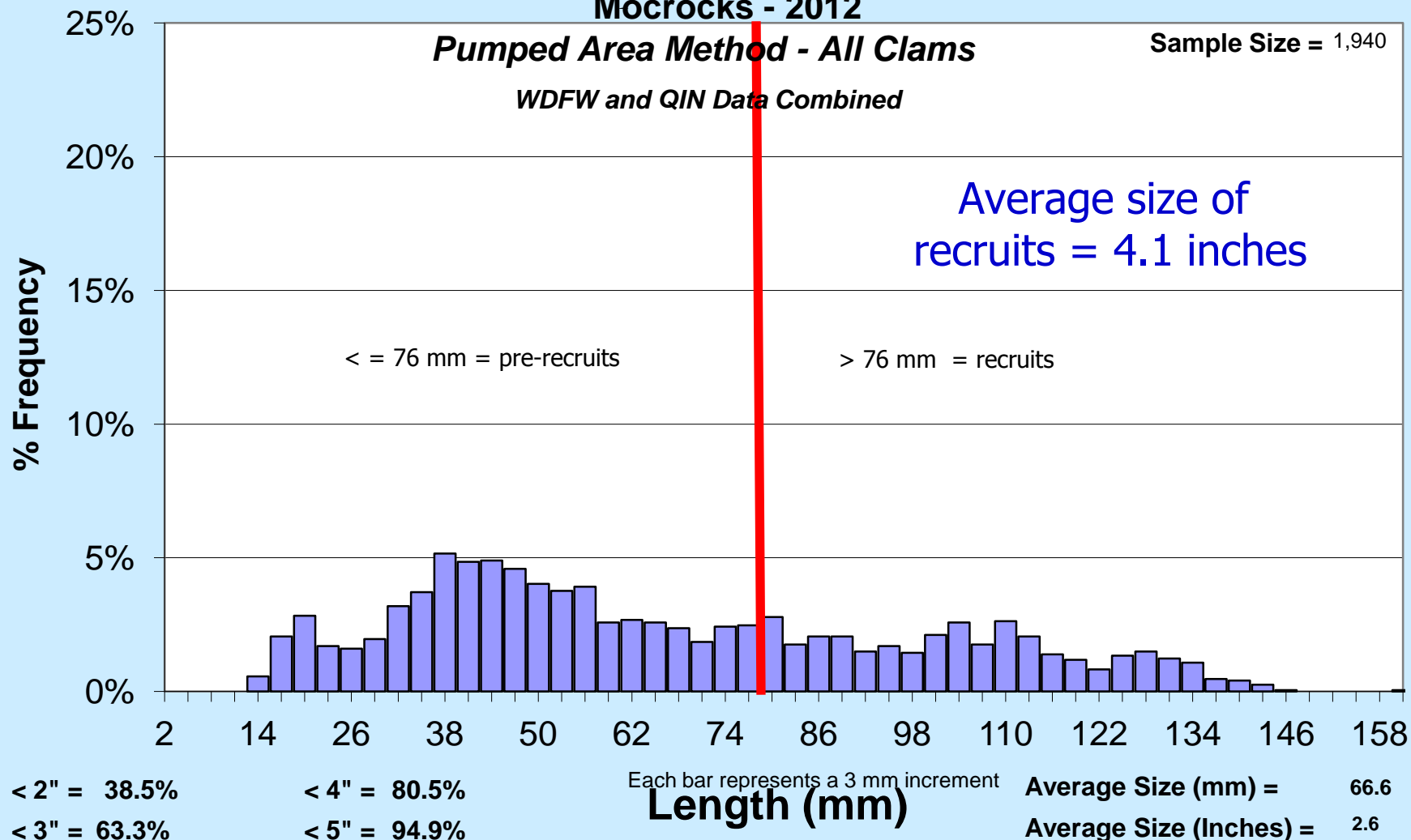
Size Frequency Distribution

Mocrocks - 2012

Pumped Area Method - All Clams

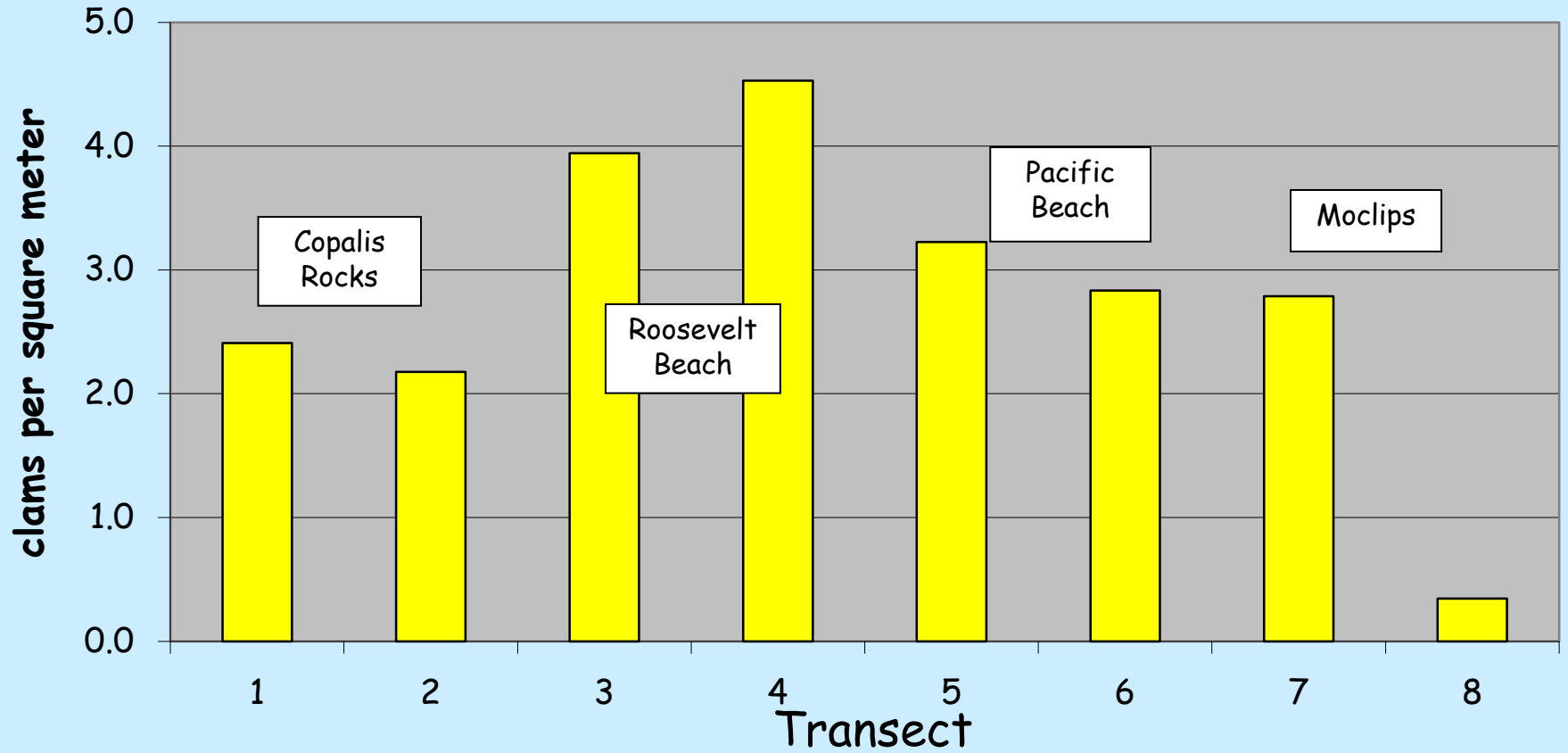
Sample Size = 1,940

WDFW and QIN Data Combined



Mocrocks Razor Clam Population- 2012

Recruit Distribution



KALALOCH RAZOR CLAM POPULATION, TOTAL ALLOWABLE CATCH (TAC) AND HARVEST DATA

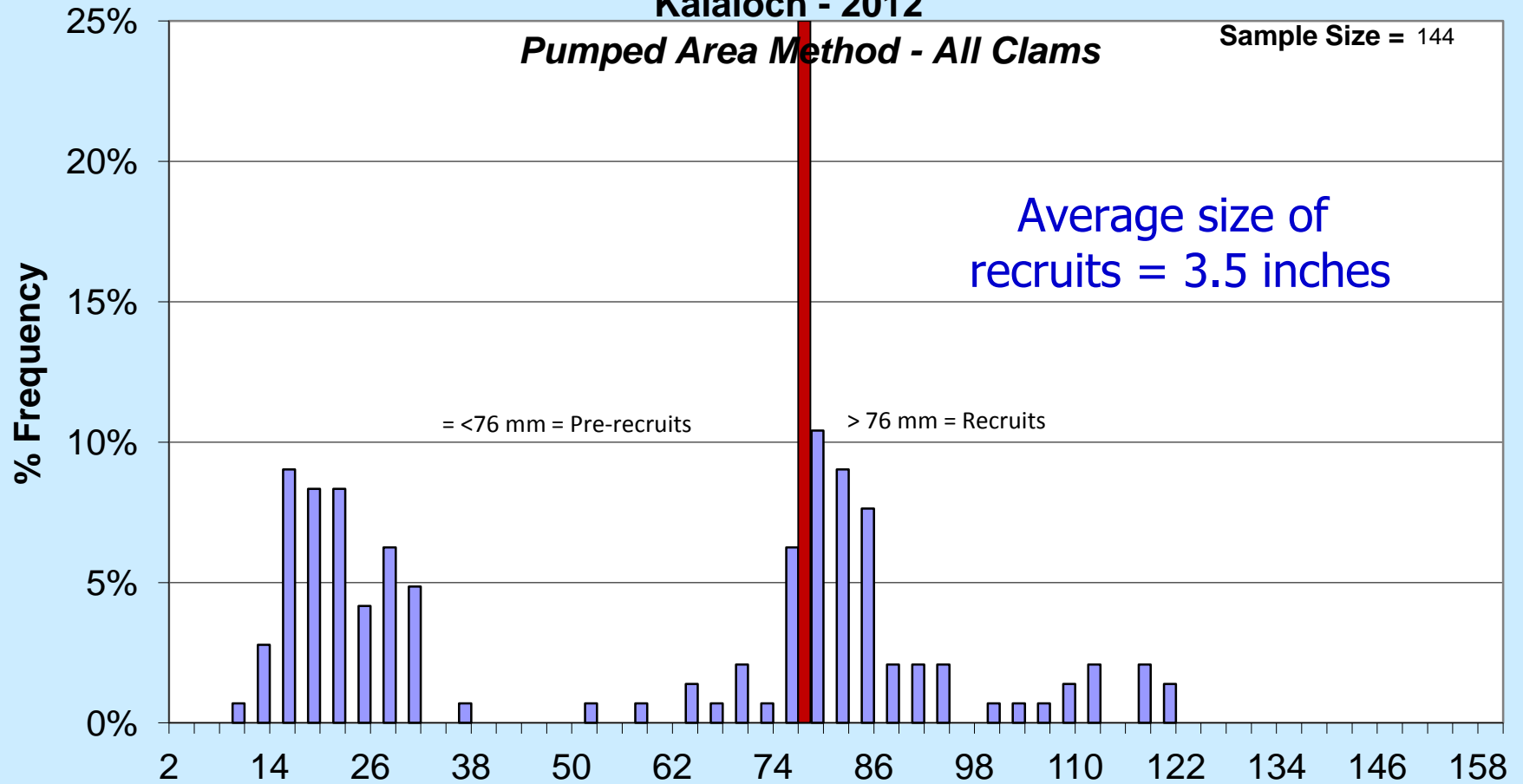
YEAR	POPULATION (clams)		TAC (clams) harvest rate 25.4%	50%	State's HARVEST (clams)
	RECRUITS	PRE-RECRUITS	of recruits	SHARES	TOTAL
2008-09	1,263,639	6,034,937	320,964	160,482	0
2009-10	3,532,257	3,251,387	897,193	448,597	46,373
2010-11	2,038,773	3,042,018	517,848	258,924	14,345
2011-12	1,138,272	2,321,662	289,121	144,561	2,952
2012-13	894,041	903,369	227,086	113,543	
AVERAGE	1,773,396	3,110,715			

Washington Razor Clam

Size Frequency Distribution Kalaloch - 2012

Pumped Area Method - All Clams

Sample Size = 144



< 2" = 45.1%

< 4" = 91.7%

< 3" = 51.4%

< 5" = 100.0%

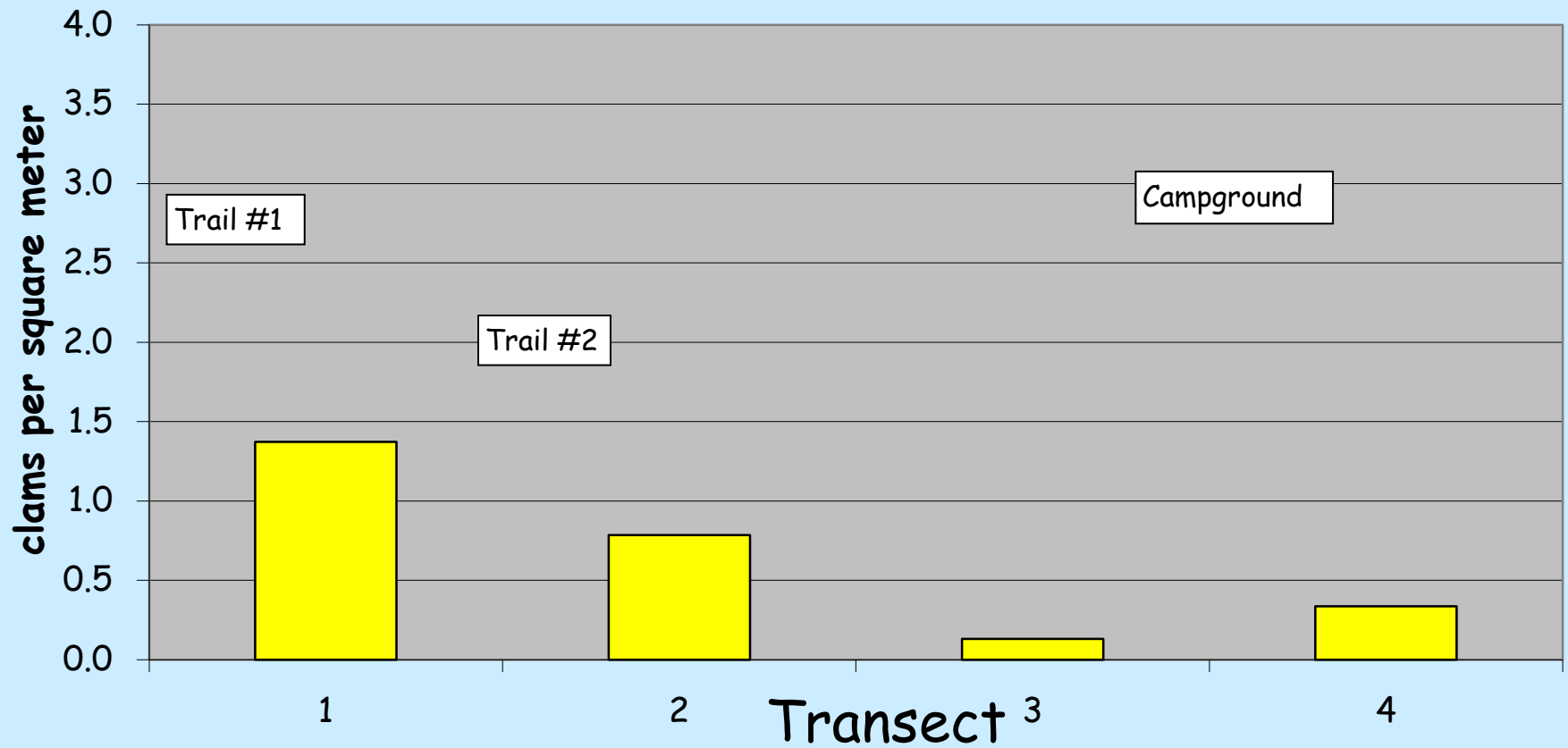
Each bar represents a 3 mm increment

Length (mm)

Average Size (mm) = 57.61

Average Size (Inches) = 2.27

Kalaloch Clam Population Distribution - 2012



Co-Management With Coastal Tribes

- Share the resource and share the work
 - ...complete joint stock assessments
 - ...determine TACs jointly
- Sign Fishery Management Plans annually
- Different seasons for different reasons
 - ...tribal C&S and or commercial seasons
 - ...State recreational seasons
- Each group monitors their own fishery
 - ...make individual harvest estimates / share data
 - ...provide enforcement

Tribal staff working on Copalis beach



2006.06.10

QIN FISHERIES

**2007-08 INTERIM RAZOR CLAM MANAGEMENT AGREEMENT
FOR COPALIS AND MOCROCKS BEACHES**

**ENTERED INTO BY THE STATE OF WASHINGTON
AND QUINULT INDIAN NATION**

August 28, 2007

This agreement establishes principles, concepts, and procedures, which will govern the non-Indian and treaty tribal fisheries for razor clams at Copalis and Mocrocks Beaches.

1. EFFECTIVE DATE

This agreement is effective on August 28, 2007.

2. TERM

The term of this agreement is until August 27, 2008, unless superseded by another agreement.

	2012-13 TAC Share (clams)	2011-12 aver daily harvest (clams)
Long Beach	1,847,952*	46,200
Twin Harbors	1,881,783*	21,700
Copalis	1,072,690	26,800
Mocrocks	909,667	29,900
Kalaloch	113,543	

SEASON OPTIONS

What do you think???

- Fall and Winter and/or Spring season only?
- Weekends (Friday/Saturday or Saturday/Sunday)?
- Weekdays (especially if daylight tides) ?
- Fewer winter and more spring tides.
- Two days / twice a month ???

What do you think???

Feel free to email your
comments and suggestions
to: razorclams@dfw.wa.gov

How to get updated razor clam season information:

WDFW Web Site: <http://wdfw.wa.gov/>

Shellfish Rule Change Hotline: 1-866-880-5431

Region Six (Montesano) 24 hour recording:
360-249-4628

E-mail distribution list : sign up today.



To be added to our e-mail update list, please send an email request to: razorclam@dfw.wa.gov

>>> Dan Ayres 08/14/03 12:26PM >>>

You are receiving this message because you have expressed interest in Washington State's recreational razor clam fishery. If you do not wish to receive future messages, please reply by return e-mail.

DOMOIC ACID UPDATE

The latest domoic acid levels were reported today(8/14/03) by the Washington Department of Health. Levels continue to drop on most all beaches, improving the chances for a fall season.

Long Beach Reserve; 3 ppm on 8/11/02 (down from 9 ppm on 7/15/03)

Twin Harbors Area CL; 17 ppm on 8/11/03 (up from 10 ppm on 7/15/03)

Copalis; 17 ppm on 8/11/03 (down from 36 ppm on 7/15/03)

Mocrocks; 12 ppm on 8/11/03 (down from 24 ppm on 7/21/03)

Kalaloch; 22 ppm on 8/10/03 (down from 28 ppm on 7/29/03)



WDFW's goal is to provide maximum harvest opportunities that are safe and enjoyable experiences.

